I claim:

1. A radio-frequency transmitting apparatus that can operate concurrently with a television broadcast, comprising:

receiving circuitry configured to output a video signal corresponding to the television broadcast;

an exciter configured to generate a radio-frequency signal separate from the video signal;

a power controller coupled to the receiving circuitry and coupled to the exciter, said power controller configured to receive the generated radio-frequency signal and output a varying signal by continuously varying the power of the outputted signal in proportion to a voltage level of the video signal; and

an antenna coupled with the power controller and configured to receive and transmit the varying signal, wherein said transmitted varying signal and the television broadcast have sufficient spectral proximity to potentially cause interference.

2. The radio-frequency transmitting apparatus according to claim 1, further comprising:

detector circuitry configured to generate at least one control signal based on the video signal of the television broadcast to indicate a transmitting timing interval for radio-frequency signal transmission in relation to current timing of the video signal; and

a keying controller coupled to the detector circuitry and coupled to the exciter, said controller configured, in a first operating mode, to enable forwarding of the generated radio-frequency signal to the power controller and, in a second operating mode, to prevent any generated radio-frequency signal from being forwarded to the power controller, wherein the operating mode of the keying controller is selectable based on the at least one control signal to select the first operating mode during the transmitting timing interval.

3. The radio-frequency transmitting apparatus according to claim 2, wherein:

the detector circuitry is further configured to determine at least one of:

a first time interval when the received video signal corresponds to letter-box bars, and

a second time interval when a voltage level of the received video signal is within a specified range; and

wherein the transmitting timing interval substantially coincides with at least one of the first time interval and the second time interval.

4. The radio-frequency transmitting apparatus according to claim 3, wherein the transmitting timing interval substantially coincides with a logical intersection of the first time interval and the second time interval.

5. The radio-frequency transmitting apparatus according to claim 3, wherein the specified range comprises a plurality of different sub-ranges.

6. The radio-frequency transmitting apparatus according to claim 2, further comprising:

a data separator coupled with the receiving circuitry and configured to extract data embedded in a predetermined portion of the video signal, said extracted data identifying the transmitting timing interval.

7. The radio-frequency transmitting apparatus according to claim 6, wherein the predetermined portion of the video signal corresponds to letter-box bars.

8. The radio-frequency transmitting apparatus according to claim 1, wherein the transmitting apparatus is a cellular base station.

9. The radio-frequency transmitting apparatus according to claim 1, wherein the transmitting apparatus is a mobile cellular station.

10. The radio-frequency transmitting apparatus according to claim 3, wherein the transmitted varying signal includes an associated priority level and the specified range is based on the associated priority level.

11. The radio-frequency transmitting apparatus according to claim 1, wherein the video signal comprises a composite, baseband signal.

12. The radio-frequency transmitting apparatus according to claim 11, wherein the video signal varies between substantially 0 volts and substantially 1.1429 volts.

13. The radio-frequency transmitting apparatus according to claim 12, wherein the video signal varies between substantially 0 volts and substantially 1.0 volts.

14. The radio-frequency transmitting apparatus according to claim 3, wherein the specified range is based on a geographical location of the transmitting apparatus.

15. A radio-frequency receiving apparatus operating concurrently with a television broadcast, comprising:

receiving circuitry configured to output a video signal corresponding to the television broadcast;

one or more front-end stages configured to generate a radio-frequency signal from a received radio-frequency signal, said received radio-frequency signal being distinct from the video signal and said received radio-frequency signal and the television broadcast having sufficient spectral proximity to potentially cause interference;

a sensitivity controller coupled with the receiving circuitry and to the one or more front-end stages, said sensitivity controller configured to receive the generated signal and output a varying signal by continuously varying the power of the outputted signal in proportion to a voltage level of the video signal; and

a demodulator coupled with the sensitivity controller and configured to receive and convert the varying signal into data.

16. The radio-frequency receiving apparatus according to claim 15, further comprising:

detector circuitry configured to generate at least one control signal based on the video signal of the television broadcast to indicate a reception timing interval for radio-frequency signal reception in relation to current timing of the video signal; and

a keying controller coupled to the detector circuitry and coupled to the one or more front-end stages, said keying controller configured, in a first operating mode, to enable forwarding of the varying signal to the demodulator and, in a second operating mode, to prevent the varying signal from being forwarded to the demodulator, wherein the operating mode of the keying controller is selectable based on the at least one control signal to select the first operating mode during the reception timing interval.

17. The radio-frequency receiving apparatus according to claim 16, wherein the detector circuitry is further configured to determine at least one of:

a first time interval when the received video signal corresponds to letter-box bars, and

a second time interval when a voltage level of the received video signal is within a specified range; and

wherein the reception timing interval substantially coincides with at least one of the first time interval and the second time interval.

18. The radio-frequency receiving apparatus according to claim 17, wherein the reception timing interval substantially coincides with a logical intersection of the first time interval and the second time interval.

19. The radio-frequency receiving apparatus according to claim 17, wherein the specified range comprises a plurality of different sub-ranges.

20. The radio-frequency receiving apparatus according to claim 16, further comprising:

a data separator coupled with the receiving circuitry and configured to extract data embedded in a portion of the received video signal, wherein the extracted data identifies the reception timing interval.

21. The radio-frequency receiving apparatus according to claim 15, wherein the receiving apparatus is a cellular base station.

22. The radio-frequency receiving apparatus according to claim 15, wherein the apparatus is a mobile cellular station.

23. The radio-frequency receiving apparatus according to claim 24, further comprising:

a video signal inverter, said inverter coupled between the receiving circuitry and the sensitivity controller and configured to invert the output video signal such that the power of the outputted varying signal from the sensitivity controller varies in inverse proportion to a voltage level of the video signal.

24. The radio-frequency receiving apparatus according to claim 15, further comprising:

a radio-frequency receiving antenna configured to receive the received signal and forward the received signal to the front-end stages; and

a front-end sensitivity controller, coupled to the receiving circuitry and coupled between the front-end stages and the radio-frequency receiving antenna, said front-end sensitivity controller configured to receive the received signal and output an intermediate signal to the front-end stages by continuously varying the power of the intermediate signal according to a voltage level of the video signal output from the receiving circuitry.

25. The radio-frequency receiving apparatus according to claim 15, further comprising:

a radio-frequency receiving antenna configured to receive the received radio-frequency signal and forward the received signal to the front-end stages; and

a front-end keying controller, coupled to the detector circuitry and coupled between the front-end stages and the radio-frequency receiving antenna, said front-end keying

controller configured, in a first operating mode, to forward the received radio-frequency signal to the front-end stages and, in a second operating mode, to prevent the received radio-frequency signal from being received by the front-end stages, wherein the operating mode of the front-end keying controller is selectable based on the at least one control signal to select the first operating mode during the reception timing interval.

26. The radio-frequency transmitting apparatus according to claim 15, wherein the video signal comprises a composite, baseband signal.

27. The radio-frequency transmitting apparatus according to claim 26, wherein the video signal varies between substantially 0 volts and substantially 1.1429 volts.

28. The radio-frequency transmitting apparatus according to claim 27, wherein the video signal varies between substantially 0 volts and substantially 1.0 volts.

29. The radio-frequency receiving apparatus according to claim 17, wherein the received radio-frequency signal includes an associated priority level and the specified range is based on the associated priority level.

30. The radio-frequency transmitting apparatus according to claim 17, wherein the specified range is based on a geographical location of the transmitting apparatus.

31. A concurrent transceiver apparatus that can operate concurrently with a television broadcast, comprising:

a transceiver configured to transmit and receive respective first and second radio-frequency signals, each of said respective signals distinct from the television broadcast and having sufficient spectral proximity with the television broadcast to potentially cause interference;

a receiver circuitry configured to output a video signal corresponding to the television broadcast;

a power controller configured to continuously vary emitted power levels of the first radio-frequency signal based on a voltage level of the video signal so as to mitigate interference of the first radio-frequency signal with the television broadcast; and

a sensitivity controller configured to continuously vary received power levels of the second radio-frequency signal based on a voltage level of the video signal so as to mitigate interference of the television broadcast with the second radio-frequency signal.

32. The concurrent transceiver apparatus of claim 31, further comprising:

a video inverter configured to invert the video signal and wherein the sensitivity controller is configured to continuously vary received power levels of the second radio-frequency signal based on a voltage level of the inverted video signal.

33. A system for concurrent use of a portion of the radio-frequency, said system comprising:

a broadcast television transmitter configured to transmit a television signal, said television signal comprising a picture portion and a non-picture portion of a predetermined format; and

a first concurrent user apparatus, comprising:

a first transceiver configured to transmit and receive respective first and second radio-frequency signals, each of said respective signals distinct from the television broadcast and having sufficient spectral proximity with the television broadcast to potentially cause interference;

a first receiver circuitry configured to output a first video signal corresponding to the television signal;

a first power controller configured to continuously vary emitted power levels of the first radio-frequency signal based on a voltage level of the first video signal so as to mitigate interference of the first radio-frequency signal with the television broadcast; and

a first sensitivity controller configured to continuously vary received power levels of the second radio-frequency signal based on a voltage level of the first video signal

so as to mitigate interference of the television broadcast with the second radio-frequency signal.

34. The system according to claim 33, wherein the concurrent user apparatus further comprises:

detector circuitry coupled to the first receiver circuitry and the first transceiver and configured to generate at least one control signal based on the first received video signal to indicate an acceptable timing interval for first transceiver operation in relation to current timing of the first video signal; and

wherein at least one of reception and transmission of the respective first and second radio-frequency signals by the transceiver is selectably enabled during the acceptable timing interval according to the at least one control signal.

35. The system according to claim 34, wherein the acceptable timing interval coincides with the non-picture portion of the television signal.

36. The system according to claim 35, wherein the non-picture portion comprises one or more letterbox bar regions.

37. The system according to claim 33, further comprising:

a second concurrent user apparatus, comprising:

a second transceiver configured to transmit and receive respective third and fourth radio-frequency signals, each of said third and fourth respective signals distinct from the television broadcast and having sufficient spectral proximity with the television broadcast to potentially cause interference;

a second receiver circuitry configured to output a second video signal corresponding to the television signal;

a second power controller configured to continuously vary emitted power levels of the third radio-frequency signal based on a voltage level of the second video

signal so as to mitigate interference of the third radio-frequency signal with the television broadcast; and

a sensitivity controller configured to continuously vary received power levels of the fourth radio-frequency signal based on a non-inverted voltage level of the second video signal so as to mitigate interference of the television broadcast with the fourth radio-frequency signal.

38. The system according to claim 33, further comprising:

a second concurrent user apparatus, comprising:

a second transceiver configured to transmit and receive respective third and fourth radio-frequency signals, each of said third and fourth respective signals distinct from the television broadcast and having sufficient spectral proximity with the television broadcast to potentially cause interference;

a second receiver circuitry configured to output a second video signal corresponding to the television signal;

a second power controller configured to continuously vary emitted power levels of the third radio-frequency signal based on a voltage level of the second video signal so as to mitigate interference of the third radio-frequency signal with the television broadcast;

a sensitivity controller configured to continuously vary received power levels of the fourth radio-frequency signal based on an inverted voltage level of the second video signal so as to mitigate interference of the television broadcast with the fourth radio-frequency signal; and

wherein the received power levels of the second concurrent apparatus are complementary to the transmitted emitted power levels of the first concurrent apparatus.

39. A method of operating a radio frequency transmitting apparatus concurrently with a television broadcast, comprising the steps of:

receiving a current video signal of the television broadcast at the transmitting apparatus, said video signal having a voltage level that varies over time;

transmitting a radio-frequency signal from the transmitting apparatus; said transmitted radio-frequency signal and television broadcast having sufficient spectral proximity to potentially cause interference; and

continuously varying a power level of the transmitted radio-frequency signal in proportion to the voltage level of the current video signal so as to mitigate interference of the transmitted radio-frequency signal with the television broadcast;.

40. The method according to claim 39, further comprising the steps of:

determining a first set of one or more time intervals in which the received video signal corresponds to a letter-box bar portion of the television broadcast; and

determining if a voltage level of the received video signal is within a specified range; and

enabling transmission of the radio-frequency signal from the transmitting apparatus only during the first set of one or more time intervals and disabling transmission of the radio-frequency signal from the transmission apparatus otherwise, said radio-frequency signal and said television broadcast having sufficient spectral proximity to potentially cause interference.

41. The method according to claim 40, further comprising the steps of:

determining a second set of one or more time intervals when a voltage level of the received video signal is within a specified range; and

enabling transmission of the radio-frequency signal from the transmitting apparatus only during periods where the first and second sets of time intervals coincide.

42. The method according to claim 39, wherein the transmitting apparatus is a cellular base station.

43. The method according to claim 39, wherein the transmitting apparatus is a mobile cellular station.

44. The method according to claim 39, wherein the transmitted radio-frequency signal comprises data intended for at least one of a cellular base station and a mobile cellular station.

45. A method of operating a radio frequency receiving apparatus concurrently with a television broadcast, comprising the steps of:

receiving a current video signal of the television broadcast at the receiving apparatus, said video signal having a voltage level that varies with time;

receiving a radio-frequency signal at the receiving apparatus; said received radio-frequency signal and television broadcast having sufficient spectral proximity to potentially cause interference; and

continuously varying a power level of the received radio-frequency signal according to the voltage level of the received current video signal so as to mitigate interference of the television broadcast with the received radio-frequency signal.

46. The method according to claim 45, further comprising the steps of:

determining a first set of one or more time intervals when the received video signal corresponds to a letter-box bar portion of the television broadcast; and

enabling reception of a radio-frequency signal at the receiving apparatus during the first set of one or more time intervals and disabling reception of the radio-frequency signal at the receiving apparatus otherwise, said received radio-frequency signal and said television broadcast having sufficient spectral proximity to potentially cause interference.

47. The method according to claim 46, further comprising the steps of:

determining a second set of one or more time intervals when a voltage level of the received video signal is within a specified range; and

activating reception of the radio-frequency signal only during time periods when the first and second sets of time intervals coincide.

48. The method according to claim 45, wherein the receiving apparatus is a cellular base station.

49. The method according to claim 45, wherein the receiving apparatus is a mobile cellular station.

50. The method according to claim 45, wherein the received radio-frequency signal comprises data intended for at least one of a cellular base station and a mobile cellular station.

51. A method of operating a radio frequency transceiver apparatus concurrently with a television broadcast, comprising the steps of:

receiving a current video signal of the television broadcast at the transceiver apparatus, said received video signal having a voltage level that varies with time and comprising a non-picture portion and a picture portion;

continuously controlling one or both of a transmitter emitted power and a receiver sensitivity of the transceiver apparatus in proportion to the voltage level of the received video signal so as to mitigate interference between the transceiver apparatus and the television broadcast.

52. The method according to claim 51, further comprising the steps of:

determining one or more time intervals when the received video signal corresponds to the non-picture portion; and

enabling operation of one or both of a transmitter and receiver of the transceiver only during the one or more time intervals and disabling the operation of one or both of the transmitter and receiver otherwise.

53. The method according to claim 51, wherein the formatted portion comprises one or more letter-box bar regions.

54. The method according to claim 51, wherein the transceiver apparatus comprises one of a cellular base station and a mobile cellular station.

55. A method for a concurrent apparatus and a plurality of television transmitters, each television transmitter transmitting a respective television signal, to concurrently and simultaneously use spectrally proximate portions of the radio-frequency spectrum, said method comprising the steps of:

broadcasting each of the respective television signals, each of said television signals comprising a non-picture portion and a picture portion;

receiving at the concurrent apparatus a current video signal corresponding to one of the respective broadcast television signals, said video signal having a voltage level that varies over time;

transmitting a first radio-frequency signal from a transmitter of the concurrent apparatus;

receiving a second radio-frequency signal at a receiver of the concurrent apparatus; and

continuously attenuating one or both of:

the transmitter's emitted power level by continuously adjusting a power level of the first radio-frequency signal in proportion to the voltage level of the received current video signal so as to mitigate interference with the television broadcast from the first radio-frequency signal; and

the receiver's sensitivity by continuously adjusting a power level of the second radio-frequency signal in proportion to the voltage level of the received current video signal so as to mitigate interference with the second radio-frequency signal from the television broadcast.

56. The method according to claim 55, further comprising the steps of:

determining one or both of:

a first time interval when the received video signal corresponds to the non-picture portion; and

a second time interval when a voltage level of the received video signal is within a specified range of voltages;

enabling operation of one or both of the transmitter and the receiver of the concurrent apparatus during at least one of the first and second time intervals and disabling operation of one or both of the transmitter and the receiver otherwise, wherein, when operating, the transmitter transmits radio-frequency signals and the receiver receives radio-frequency signals.

57. The method according to claim 55, further comprising the step of:

synchronizing the broadcasting of two or more of the television signals so that respective non-picture portions are not simultaneously broadcast.

58. The method according to claim 55, further comprising the step of:

synchronizing the broadcasting of two or more of the television signals so that respective non-picture portions are simultaneously broadcast.

59. The system according to claim 55, wherein a portion of the non-picture portion of at least one of the television signals includes an interference minimizing code.

60. The method according to claim 55, wherein transmitted radio-frequency signals from the concurrent apparatus include instruction data transmitted to one or more of the television transmitters, wherein the instruction data relates to one or more of timing, modulation and power of the respective television signal of the one or more television transmitters.

61. The method according to claim 55, wherein the transmitted radio-frequency signals from the concurrent apparatus include instruction data transmitted to a mobile cellular station, wherein the instruction data relates to enabling operation of the mobile cellular station during a predetermined period of one or more of the respective television signals.

62. A radio-frequency transmitting apparatus that can operate concurrently with a television broadcast, comprising:

a signal generator configured to generate a radio-frequency signal, said radio-frequency signal being separate from the television broadcast and having sufficient spectral proximity with the television broadcast to potentially cause interference; and

a power controller configured to adjust a power level of the radio-frequency signal in a predetermined relationship with the television broadcast, so as to mitigate interference between the generated radio-frequency signal and the television broadcast.

63. The radio-frequency transmitting apparatus according to claim 62, further comprising:

receiver circuitry configured to output video signal corresponding to the television broadcast, said output video signal having a time-varying voltage level.

64. The radio-frequency transmitting apparatus according to claim 63, wherein the power controller is further configured to continuously adjust the power level of the radio-frequency signal so that the radio-frequency signal varies in proportion to the voltage level of the output video signal.

65. The radio-frequency transmitting apparatus according to claim 63, wherein the power controller is further configured to continuously adjust the power level of the radio-frequency signal so that the radio-frequency signal varies inversely in proportion to the voltage level of the output video signal.

66. The radio-frequency transmitting apparatus according to claim 62, further comprising:

a transmitter configured to emit the power adjusted radio-frequency signal.

67. The radio-frequency transmitting apparatus according to claim 62, wherein the power controller comprises:

a detector configured to indicate a timing interval corresponding to a non-picture portion of the television broadcast; and

a keying controller configured to enable the transmitting apparatus to emit the power adjusted radio-frequency signal during the timing interval and to prevent the transmitting apparatus from emitting the power adjusted radio-frequency signal otherwise.

68. A radio-frequency receiving apparatus that can operate concurrently with a television broadcast, comprising:

a signal receiver configured to receive a radio-frequency signal, said received radio-frequency signal being separate from the television broadcast and having sufficient spectral proximity with the television broadcast to potentially cause interference; and

a sensitivity controller configured to generate a varying radio-frequency signal by continuously adjusting a power level of the received radio-frequency signal in a predetermined relationship with the television broadcast so as to mitigate interference between the received radio-frequency signal and the television broadcast.

69. The radio-frequency receiving apparatus according to claim 68, further comprising:

receiver circuitry configured to output a video signal corresponding to the television broadcast, said output video signal having a time-varying voltage level.

70. The radio-frequency receiving apparatus according to claim 69, wherein the sensitivity controller is further configured to continuously adjust the power level of the received radio-frequency signal so that the varying radio-frequency signal varies in proportion to the voltage level of the output video signal.

71. The radio-frequency receiving apparatus according to claim 69, wherein the sensitivity controller is further configured to continuously adjust the power level of the generated radio-frequency signal so that the varying radio-frequency signal varies inversely in proportion to the voltage level of the output video signal.

72. The radio-frequency receiving apparatus according to claim 68, further comprising:

a demodulator configured to extract data from the varying radio-frequency signal corresponding.

73. The radio-frequency receiving apparatus according to claim 72, further comprising:

a detector configured to indicate a timing interval corresponding to a non-picture portion of the television broadcast; and

a keying controller configured to enable the receiving apparatus to receive the received radio-frequency signal during the timing interval and to prevent the receiving apparatus from receiving the received radio-frequency signal otherwise.

74. A method for mitigating interference between a radio-frequency transmitting apparatus and a television broadcast, comprising the steps of:

emitting a power-varying radio-frequency signal from the radio-frequency transmitting apparatus, said power-varying signal being separate from the television broadcast and spectrally proximate to the television broadcast; and

continuously adjusting a power level of the power-varying radio-frequency signal in a predetermined relationship with the television broadcast so as to mitigate interference between the generated radio-frequency signal and the television broadcast.

75. The method according to claim 74, further comprising the steps of:

generating, at the transmitting apparatus, a video signal corresponding to the television broadcast, said video signal having a time-varying voltage level, and wherein the power level of the power-varying radio-frequency signal is continuously adjusted in response to the time-varying voltage level.

76. A method for mitigating interference between a radio-frequency receiving apparatus and a television broadcast, comprising the steps of:

receiving a radio-frequency signal, said received signal being separate from the television broadcast and spectrally proximate to the television broadcast; and

continuously adjusting a power level of the received radio-frequency signal in a predetermined relationship with the television broadcast so as to mitigate interference between the received radio-frequency signal and the television broadcast.

77. The method according to claim 76, further comprising the steps of:

generating, at the receiving apparatus, a video signal corresponding to the television broadcast, said video signal having a time-varying voltage level, and wherein the power level of the received radio-frequency signal is continuously adjusted in proportion to the time-varying voltage level.

78. The method according to claim 76, further comprising the steps of:

generating, at the receiving apparatus, a video signal corresponding to the television broadcast, said video signal having a time-varying voltage level, and wherein the power level of the received radio-frequency signal is continuously adjusted in inverse proportion to the time-varying voltage level.